

REMARKS

By this Amendment, claims 1, 6-8, and 18-20 have been amended, and new claims 21-26 have been added. Claim 5 is canceled herein. Claims 13 and 15-17 were previously canceled in accordance with a restriction requirement. Claims 18-20 have been amended for clarity. New claims 21-23 depend from claim 1. New claim 24 combines the subject matter of claim 1 (prior to its present amendment) with the limitation that the tubular perforated output portions are substantially parallel to one another. New claims 25 and 26 further limit the device of claim 24. Figure 9 supports all of the limitations in claims 21-26. Accordingly, claims 1, 4, 6-12, 14, and 18-26 (19 claims) are pending in the application. No new matter has been added herewith.

Claim Rejections – (35 U.S.C. § 112, 2nd paragraph)

The Examiner first rejected claim 20 under 35 U.S.C. 112, 2nd paragraph as being indefinite. The Examiner stated that claim 20 is indefinite because it fails to further limit the process claim from which it depends because it does not recite a manipulative step.

The Examiner will note that claim 20 has been amended to recite a method of forming a medicinal preparation comprising enriching a fluid with a gas using the device of claim 1. It is believed the amendment overcomes the rejection.

Claim Rejections – 35 U.S.C. § 102(b) (Ferriss)

Claims 1, 6, 7, 12, and 18-20 are rejected under 35 U.S.C. 102(b) as anticipated by Ferriss, U.S. 4,624,791, (“Ferriss”). The Examiner contends that Ferriss discloses a process and apparatus for continuous enrichment of a fluid with a gas, wherein the gas enters a tubular device through perforated tubular outlet portions, forming the gas inlet nozzle means. The fluid enters through a different line, and the gas-enriched fluid exits through yet another line. The Examiner also believes that volumetric portions having a plurality of walls having differently sized perforations arranged between the volumetric portions are disclosed.

The Examiner will note the amendment of claims 1, 6, and 18-20. Claim 1 now recites that both the means for supplying the gas and the means for supplying the fluid each comprise tubular perforated output portions. Further, the means for supplying a gas to the container provides a flow of gas, wherein the gas flows in a particular direction, and the plurality of walls

are generally arranged perpendicular to the direction of flow of the gas. The newly added limitations to claim 1 are found in Figure 9.

Ferriss fails to disclose all of the elements of claim 1, as amended, in particular, that both the means for supplying the gas and the means for supplying the fluid each comprise tubular perforated output portions. In Ferriss, only the gas enters via a tubular device through perforated tubular outlet portions. The fluid entrance means is not perforated. Further, there is no disclosure or suggestion that Ferriss' flow of gas is perpendicular (or has any particular orientation) to the plurality of walls. Applicants respectfully submit that claim 1, as amended, is novel and patentable over Ferriss. Because claims 6 and 18-20 depend from claim 1, they are similarly patentable over Ferriss.

Claim 7 has been amended to independent form, including the limitations of claims 1 and 4. Because claim 4 was not rejected over Ferriss alone, Applicants respectfully submit that claim 7 is novel over Ferriss, and request withdrawal of the rejection.

Applicants respectfully invite the Examiner to revisit the basis for the rejection of claims 1, 6, 7, 12, and 18-20 and withdraw the same.

New Claims – 21-26

New claims 21-26 have been added to round out Applicant's claim coverage. Claims 21 and 22 each depend from claim 1, and further define particular aspects of the invention. New claim 21 recites that the gas supply means and the fluid supply means are substantially parallel to one another, supported by elements 25 and 37 of Figure 9 as well as page 24, lines 7-14. New claim 22 includes the feature that a second gas supply means is included in the device of claim 1, supported by element 31 in Figure 9 as well as page 24, lines 16-21. New claim 23 limits claim 1 to having the walls substantially parallel to one another. Ferriss fails to disclose all of the limitations of claim 1, as amended, and separately fails to disclose the limitations of claims 21-23. Based on the foregoing, claims 21-23 are novel over Ferriss.

New claim 24 combines the subject matter of claim 1 (prior to its present amendment) with the limitation that the tubular perforated output portions are substantially parallel to one another. New claim 25 limits the device of claim 24 to having the walls substantially parallel to one another, while new claim 26 limits the device of claim 24 to require that the tubular output

portions are substantially perpendicular to the plurality of walls. Figure 9 supports all of the limitations in claims 21-23, 25 and 26. The entry of claims 21-26 is respectfully requested. Applicants assert their patentability over Ferriss based on the foregoing.

Claim Rejections – 35 U.S.C. § 103(a) (Ferriss)

Claims 8 and 9 have been rejected as obvious under 35 U.S.C. 103(a) over Ferriss. The Examiner contends that Ferriss “substantially discloses applicant’s invention,... except for the specific material of the device,” and concludes that choice of construction material is within the purview of the skilled artisan.

As noted above, claim 8 has been amended to include the limitations of claims 1, 4, and 5. Claims 4 and 5 were not rejected over Ferriss alone, under either section 102 or 103. As claim 9 depends from claim 1, as amended, Applicant respectfully submits that claim 9 is not obvious in view of Ferriss. Applicant respectfully requests that the Examiner withdraw the rejection.

Claim Rejections – 35 U.S.C. § 103(a) (Ferriss/Hirose)

Claims 4, 10, and 11 stand rejected under 35 U.S.C. 103(a) over Ferriss in view of Hirose et al., U.S. 4,869,849, (“Hirose”). The Examiner repeats his contention that Ferriss substantially discloses the claimed invention. The Examiner admits that Ferriss fails to disclose perforated plates having different sized perforations on alternating plates, and the device having cooling means associated therewith.

The Examiner contends that Hirose discloses a fluid mixing apparatus similar to that of Ferriss having alternating plates with perforations of different sizes to aid in fluid mixing. The Hirose device is made of metal and has cooling channels. The Examiner concludes that it would have been obvious to modify the plates of Ferriss with differently sized perforations of Hirose to mix the fluids therein. The Examiner further concludes that the use of a metallic, cooled casing of Hirose in the device of Ferriss would have been obvious.

Claim 1 has previously been shown to be both novel and non-obvious over Ferriss alone. The combination of Hirose with Ferriss does not disturb this. Hirose must be cited to fill in the

gaps of Ferriss with respect to claims 4, 10, and 11, and fails to do so. As noted previously, claim 1, as amended, now contains the limitations that both the means for supplying the gas and the means for supplying the fluid each comprise tubular perforated output portions.

Hence, because claims 4, 10, and 11 all depend from claim 1, the cited art combination utterly fails to disclose all elements of those claims. Applicant invites the Examiner to revisit the reasoning behind the rejection and requests withdrawal of the same.

Claim Rejections – 35 U.S.C. § 103(a) (Ferriss/Lockey or Seidel or Rubin)

The Examiner rejected claim 5 under 35 U.S.C. 103(a) over Ferriss in view of any of Lockey, U.S. 2,176,558, or Seidel, U.S. 2,305,796 or Rubin, U.S. 2,637,541 each individually. The Examiner admits that Ferriss fails to disclose a multi-layer tubular device with different sized perforations that serves as the gas inlet means. Accordingly, the Examiner cites Lockey, Seidel and Rubin, contending that they each individually disclose a gas inlet means into a gas/fluid mixing device, where the gas passes through multiple layers having different sized perforations into the mixing chamber.

The Examiner will note that claim 5 has been canceled. It is thus believed the rejection thereof is rendered moot. Withdrawal of the same is respectfully requested.

Claim Rejections – 35 U.S.C. § 103(a) (Ferriss/Smith)

Finally, claim 14 is rejected under 35 U.S.C. 103(a) over Ferriss in view of Smith, U.S. 824,956. Beginning with the disclosures of Ferriss, above, the Examiner admits that Ferriss fails to disclose a manometer. Accordingly, the Examiner cites Smith as disclosing a manometer on a gas/liquid mixing device similar to that of Ferriss, including a manometer for regulating the pressure difference between the gas and liquid within the device. The Examiner concludes the modification of Ferriss with the manometer of Smith would have been obvious.

The Examiner is referred to the discussion of the patentability of claim 1 over Ferriss, above. Claim 14 depends from claim 1, by now well established to be patentable over Ferriss. Smith fails to disclose all of the claimed limitations missing from Ferriss. In particular, the gas supply means of Smith is pipe *c*, ending in rose *d*. There is no manometer associated with those elements. The Examiner cites element *h*, a simple pipe extending from the liquid out to open air

as a manometer. It is not connected to, or associated with the gas supply means, pipes *e*. Further, a manometer is a pressure measuring device. Pipe *h* is a simple pipe open to the air, which includes no pressure measuring component or function. Hence, the limitation "wherein the means for supplying the gas includes a manometer," is not met by Smith, and hence not met by the combination of Smith with Ferriss. The Examiner is invited to revisit the basis for the rejection, and respectfully requested to withdraw the same.

CONCLUSION

In light of the foregoing, it is respectfully submitted that the present application, including claims 1, 4, 6-12, 14, and 18-26, is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge the same to Deposit Account No. 18-0160, Order No. GIL-15763.

Respectfully submitted,

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